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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/627,386	04/04/1996	GUNTER BAUR	MERCK-1753-D	8932
23599 7590 05/15/2007 MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			EXAMINER SCHECHTER, ANDREW M	
			ART UNIT 2871	PAPER NUMBER
			MAIL DATE 05/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

08/627,386

Applicant(s)

BAUR ET AL.

Examiner

Andrew Schechter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-25, 37-85, 88-90 and 97-124 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 63-67 is/are allowed.
- 6) ☒ Claim(s) 20-35, 37, 39, 40, 42-62, 68-85, 89, 90, 97-101 and 112-122 is/are rejected.
- 7) ☒ Claim(s) 38, 41, 88, 102-111, 123 and 124 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 08/466,068.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/18/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: NPL document.

DETAILED ACTION

Drawings

1. The drawings were received on 18 December 2006. These drawings are acceptable to the examiner.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Response to Arguments

3. Applicant's arguments filed 18 December 2006 have been fully considered but they are not fully persuasive.

As a preliminary matter, the applicant states [p. 19] that the two *Soref* references apply to the same basic system; the examiner agrees. Noting the first line of *Soref IEEE* states that it is presenting properties and characteristics of the device in *Soref JAP*, the examiner has rewritten the previous grounds of rejection to rely on *Soref JAP* with *Soref IEEE* giving evidence of the inherency in *Soref JAP* of all properties mentioned in *Soref IEEE*. The examiner believes that this simplifies the discussion of the issues, while not substantively changing the issues at hand. (One immediate simplification is that *Soref IEEE* discloses an 80 Angstrom film of silicon monoxide was deposited at 85° to provide surface orientation; this is therefore taken as an inherent

property of *Soref JAP*.) When the distinction is not important, the examiner will refer to these two references collectively as *Soref*.

The applicant [p. 19] refers the examiner to the reply of 14 April 1997, pp. 15-17; the examiner has reviewed this reply.

The applicant alleges [pp. 17-18] that the reply of 14 April 1997 [which the examiner has reviewed] establishes various facts including:

- 1) Prior to this invention, LCDs were unable to achieve viewing angle independency equivalent to CRTs.
- 2) There was a long felt need to solve this problem.
- 3) This invention solved the problem, receiving various awards, which evidences that this was a non-obvious advance and qualifies as "unexpected results".
- 4) The prevalence of LCDs since the invention establishes the "commercial success" of the invention with a direct nexus to the IPS recitations of these claims.

Based on these points, the applicant argues [p. 18] that the *Soref* references "are highly unlikely to have disclosed the claimed solution to the long-standing problem of maintaining good contrast with variation of viewing angle." The applicant then argues [p. 19-21] that *Soref* does not, in fact, suggest the claimed invention, discussing particular claim limitations and particular details of *Soref*. The examiner will respond to this discussion point-by-point.

The applicant argues [p. 19-20] that *Soref* does not disclose a pre-tilt angle of zero degrees. For instance, the applicant argues that *Soref IEEE* refers to an orientation treatment of depositing an 80-Angstrom film of silicon monoxide at 85°, and

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cites *Cognard's* Table VI showing that such an orientation treatment might produce a range of pre-tilt angles above and below 30° , depending on the liquid crystal and other factors. Another reference, *Uchida and Seki*, made of record by the examiner, shows much the same facts [see p. 22]: that SiO evaporated at 85° produces a pre-tilt angle ranging anywhere from 15° to 40° (depending on the liquid crystal, surface conditions, etc.). The examiner therefore withdraws the previous rejections based on *Soref*, which simply stated that pre-tilt angle was zero based on a literal interpretation of *Soref*. Instead, new rejections are made based on the pre-tilt angles in *Soref* as evidenced by *Congard* and *Uchida and Seki*.

The applicant argues [p. 20] that Fig. 3 of the *Soref JAP* does not disclose an orientation angle $0^\circ < \beta_0 < 90^\circ$, but is merely intended in the nature of a diagram defining what the angle β_0 is, rather than suggesting an actual value for the angle; actual values of 0° and 90° are cited in the text on p. 5467, which are outside the scope of the claims. This is not persuasive. *Soref IEEE* states that the author "investigated devices with different initial director orientations" and explicitly cites values of 0° , 45° , and 90° . It therefore appears that Fig. 3 of *Soref JAP* is not meant merely to define the angle, which then actually only takes on values of 0° or 90° ; rather *Soref* would be understood to disclose explicitly multiple angles including 45° , not only 0° or 90° .

The examiner held previously [p. 11, office action of 18 July 2006] that *Soref IEEE* teaches that the orientation angle can be arbitrarily selected, so that different possible values of β_0 are art-recognized equivalents. The applicant argues [p. 20-21] that their invention and evidence shows that "it is the non-orthogonal selection of

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orientation angle" which enables the benefits and unexpected results of their invention. The examiner notes that such unexpected results can only overcome rejections under 35 USC 103, not 35 USC 102. Since *Soref* discloses the example of $\beta_o = 45^\circ$, certain claims are anticipated, regardless of possible unexpected results. Considering claims which do not include $\beta_o = 0^\circ$, 45° , or 90° , *Soref's* teaching of the equivalence of all values of β_o can be overcome by the applicant's presentation of unexpected results for certain ranges of β_o compared to the prior art values of 0° , 45° , 90° , and the range of β_o from 0° to 90° . Considering the specification and the evidence submitted, it appears to the examiner that the applicant has made a persuasive case for unexpected results in the ranges $0^\circ < \beta_o \leq 20^\circ$ and $70^\circ \leq \beta_o < 90^\circ$ compared to the prior art (principally *Soref*) values of 0° and 90° , respectively. Claims incorporating these ranges are therefore indicated as allowable over *Soref*. In the opinion of the examiner, the specification and evidence submitted so far do not yet make a persuasive case for unexpected results, beyond the prior art results, for the range $20^\circ < \beta_o < 70^\circ$.

The applicant argues [p. 21] that claims 84 and 85 are not anticipated by *Soref* for the same reasons. This is not persuasive. *Soref* teaches choosing β_o to increase the contrast, as discussed. The claim does not compare to any specific prior art, but merely recites the vague "improved," presumably over other values of β_o , which is met by *Soref* as discussed.

The applicant argues [p. 21] that *Nakanowatari* does not anticipate claim 89, saying that "[e]ven if this reference does involve homogeneous alignment, this does not imply that it utilizes pre-tilt angles as required by the claims of this application or

satisfies any other requirement either". This is not persuasive. Claim 89 does not recite "pre-tilt angles" at all, but merely "an initial state configuration". The previous rejection of claim 89 in view of *Nakanowatari* is therefore maintained.

The applicant argues [p. 22] that claim 89 is not indefinite, that the implied comparison can be made with "any prior art device". This is not persuasive. If this were the case, taking any two such prior art devices (which otherwise meet the claim), one of the devices will have better viewing angle/contrast due to "an initial state configuration", so the claim would automatically be anticipated. Since this cannot be the intent of the applicant, the scope of the claim is unclear, as discussed by the examiner. The previous rejection under 35 USC 112 is therefore maintained.

The applicant argues [p. 22] that claim 88 is supported, based on the discussion of the marked up version of Fig. 7; the examiner agrees and withdraws the previous rejection under 35 USC 112, first paragraph.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 89 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites "has an initial state configuration ... which reduces domain formation ... and/or which imparts ... a small viewing angle dependence and a

correspondingly improved image contrast". Reduces with respect to what? Improved with respect to what? In claims 84 and 85, it is clear that the reduction or improvement is in comparison to the device when other values of α_0 and/or β_0 are chosen. Here, given a prior art device, it is unclear what to compare it to, to see if a reduction or improvement has occurred. Also, in the phrase "small viewing angle dependence", the term "small" is a term of degree which is understood to mean smaller than in the device being compared to; in claim 89, where it is not clear what is being compared, the scope of "small viewing angle dependence" becomes unclear. For examining purposes, it is assumed that any viewing angle dependence will be "small" compared to some other device.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 90, 84, and 85 are rejected under 35 U.S.C. 102(b) as being anticipated by Soref, "Field effects in nematic liquid crystals obtained with interdigital electrodes", Journal of Applied Physics, vol. 45, no. 12, (1974) [Soref JAP] with evidence of inherency provided by Soref, "Interdigital Twisted-Nematic Displays", Proceedings of the IEEE, pp. 1710-1711, (1974) [Soref IEEE], with further evidence of inherency provided

by *Cognard*, "Alignment of Nematic Liquid Crystals and Their Mixtures" (made of record by the applicant) and *Uchida and Seki*, "Surface Alignment of Liquid Crystals" in *Liquid Crystals Applications and Uses*, ed. Bahadur (1992).

Soref JAP describes a device whose additional properties are described in *Soref IEEE* (see the first paragraph of *Soref IEEE*). *Soref IEEE* is therefore cited as providing evidence of inherency (for the device of *Soref JAP*) of the properties which are referred to in *Soref IEEE*; the two references are collectively referred to as *Soref* where the distinction is not critical.

Soref discloses [see Figs. 1 and 3 of *Soref JAP*, for instance] a liquid crystal switching element comprising a liquid crystal layer comprising liquid crystal molecules and having a surface for display of an image which is switched under control of an electric field having a component predominantly parallel to said surface, wherein said liquid crystal molecules have a pretilt angle α_0 caused by an 80 Angstrom film of silicon monoxide deposited at 85° incidence [*Soref IEEE*, 2nd paragraph], which results in a pre-tilt angle ranging from about 15° to about 40° [*Cognard*, Table VI and *Uchida and Seki*, p. 22]. This range overlaps the recited range of $0^\circ \leq \alpha_0 < 30^\circ$ with sufficient specificity that one of ordinary skill in the art would expect the same properties to occur, so in the opinion of the examiner it anticipates the recited range [see MPEP 2131.03]. *Soref* also discloses an orientation angle β_0 such that $0^\circ < \beta_0 < 90^\circ$ [β_0 is labeled θ_A in Fig. 3 and *Soref IEEE* explicitly discloses using $\beta_0 = 45^\circ$, last paragraph of p. 1710]. Claim 90 is therefore anticipated.

Considering claims 84 and 85, *Soref* discloses an electro-optical display device comprising a liquid crystal layer comprising liquid crystal molecules and having a surface for display of an image which is switched under control of an electrode field having a component predominantly parallel to said surface, wherein said liquid crystal molecules are in homogeneous alignment and have a pretilt angle α_0 [as discussed above] and an orientation angle β_0 [as discussed above] which prevent or reduce domain formation in said image and/or which imparts to said image a small viewing angle dependence and a correspondingly improved image contrast [the reference discusses varying θ (that is, β_0) to produce higher contrast in accordance with a $\sin 2\theta$ theory, in which the optimal contrast occurs at $\beta_0 = 0^\circ$ or 90°]. Claims 84 and 85 are therefore anticipated.

8. Claim 89 is rejected under 35 U.S.C. 102(b) as being anticipated by *Nakanowatari*, Japanese Patent Document No. 01-120528.

Nakanowatari discloses an electro-optical display device comprising a liquid crystal layer comprising liquid crystal molecules and having a surface for display of an image which is switched under control of an electrode field having a component predominantly parallel to said surface, wherein said liquid crystal molecules are in homogeneous alignment and said device has an initial state configuration in the absence of electric field which during operation reduces domain formation in said image and/or which imparts to said image a small viewing angle dependence and a correspondingly improved image contrast [the electrode and liquid crystal configuration

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which provides high contrast, etc.; see the abstract and the translation provided by the applicant, for instance]. Claim 89 is therefore anticipated.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 20-35, 39, 40, 42-62, 68-80, 82, 83, and 112-119 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Soref JAP*, *Soref IEEE*, *Cognard*, and *Uchida and Seki* as applied above, in view of official notice.

Soref discloses [see Figs. 1 and 3, for instance] an electro-optical display device comprising a liquid crystal switching element which comprises a liquid crystal layer comprising liquid crystal molecules and having a surface for display of an image which is switched under control of an electric field having a component predominantly parallel to said surface, wherein said liquid crystal molecules have a pretilt angle α_0 [as discussed above], and an orientation angle β_0 such that $0^\circ < \beta_0 < 90^\circ$ [as discussed above].

Soref does not disclose a plurality of such switching elements; instead it discloses only a single on-off switching element (note that the claimed "switching element" should be thought of as an LCD pixel, rather than as a TFT, for instance). The examiner takes official notice that it would have been obvious to one of ordinary skill in

the art at the time of the invention to form a plurality of such switching elements in the display device, motivated by the desire to having a plurality of pixels which can thereby form a useful image. Claim 20 is therefore unpatentable.

The range of $\alpha_0 = 15^\circ$ to 40° was discussed previously as being disclosed by *Soref* in view of *Cognard* and *Uchida and Seki*. The examiner takes official notice that one of ordinary skill in the art would have expected the same behavior for pre-tilt angles in the range of $\alpha_0 = 0^\circ$ to 15° [see the discussions in *Cognard* and *Uchida and Seki*, for instance]; in the opinion of the examiner at present, the applicant's argument for unexpected results does not appear to specifically relate to the ranges of the pre-tilt angle; that is, it does not show that use of any of the recited ranges of pre-tilt angle provides unexpected results over the prior art showing a different range. A *prima facie* case of obviousness therefore exists [see MPEP 2144.05], so claims 21-35 are therefore unpatentable.

As shown in the top of Fig. 3, the liquid crystal layer can have an twisted structure in its initial orientation which can be untwisted by the field component aligned predominantly parallel to the liquid crystal layer, so claims 39 and 112-118 are also unpatentable. There are liquid crystal molecules which are twistable, a substrate, and an electrode structure as recited, so claim 40 is also unpatentable. There is a polarizer and a voltage source, so claims 42, 43, 71, 74, and 75 are also unpatentable. There is an analyzer, so claims 47 and 72 are also unpatentable. The axis of switching-effective twisting of the liquid crystal molecules is substantially perpendicular to the plane of the substrate, so claim 49 is also unpatentable. Within the image spot of the liquid crystal

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switching element, the electrode structure is formed between the substrate and the liquid crystal layer and has at least one pair of electrodes with a space therebetween, so claim 50 is also unpatentable. Each pair of electrodes comprises strip- or line-type electrodes which extend to make a space between them, so claim 51 is also unpatentable. The electrodes intermesh in comb fashion, so claim 52 is unpatentable. The space between the pair of electrodes is $15\text{ }\mu\text{m}$, so claim 53 is also unpatentable. The applied voltage is $\sim 10\text{V}_{\text{rms}}$, so claim 54 is also unpatentable. The thickness of the liquid crystal is $1.5\text{-}3\text{ }\mu\text{m}$, so claim 55 is also unpatentable. The electrode structure is located in one plane, so claim 62 is also unpatentable. The switching elements would comprise a multiplicity of pixels, so claim 68 is also unpatentable. The liquid crystal is nematic, so claim 46 is also unpatentable.

The examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to have the area of the image spots (pixels) be $10\text{ }\mu\text{m}^2$ to 1 mm^2 , motivated by the desire to be able to create high resolution images, so claim 56 is also unpatentable. Similarly, to arrange in an active matrix, thin film transistor matrix, would have been obvious to one of ordinary skill in the art at the time of the invention in order to obtain good image quality, so claims 57, 58, 61, 76, 77, and 82 are also unpatentable. Similarly, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the time multiplex method, and alter brightness and/or color of the pixels, to obtain a good display by standard driving methods, so claims 59, 60, 82, and 83 are also unpatentable. The examiner also takes official notice that having the initial orientation of liquid crystal molecules along the

polarizer and having the polarizer and analyzer parallel or perpendicular is well known [actually, this is made explicit in *Soref IEEE*], and it would have been obvious to one of ordinary skill in the art at the time of the invention to arrange them so, motivated by the desire to control the light polarizations using the conventional arrangement, so claim 69 is unpatentable. Having the liquid crystal molecules perpendicular to the polarizer is an art-recognized equivalent, so claim 70 is also unpatentable. Similarly, the examiner takes official notice that positive retardation ($\Delta n d$) less than 4λ , using dichroic dyes and polymer in the liquid crystal, and birefringent optical compensation were well-known, and would have been obvious to one of ordinary skill in the art at the time of the invention either due to conventionality, to improve the display quality, or produce certain types of LCDs with known advantages; claims 48, 73, and 78-80 are therefore unpatentable.

Soref discloses an orientation layer [formed of silicon monoxide] aligning the liquid crystal molecules. All the limitations of claim 44, 45, and 119 are therefore met, so these claims are unpatentable as well.

11. Claims 37, 81, 97-101, and 120-122 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Soref JAP*, *Soref IEEE*, *Cognard*, and *Uchida and Seki* as applied above, in view of *Soref IEEE*.

Soref does not disclose the particular angle β_0 shown in Fig. 3. In the absence of specific arguments that the claimed ranges of β_0 have unexpected advantages over values, the examiner relies on the evidence of *Soref IEEE* that "[in] general, the nematic director at the electroded plate can have an arbitrary orientation in the xy plane" which

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evidences that the different possible values of β_o are considered art-recognized equivalents.

In the opinion of the examiner, the applicant has provided sufficient evidence of unexpected results for the ranges $0^\circ < \beta_o \leq 20^\circ$ and $70^\circ \leq \beta_o < 90^\circ$ compared to the prior art (*Soref*) values of 0° and 90° , respectively. Claims incorporating these ranges are therefore indicated as allowable over *Soref*. In the opinion of the examiner, the specification and evidence submitted so far do not yet make a persuasive case for unexpected results beyond the prior art results [including the value of $\beta_o = 45^\circ$ disclosed by *Soref*] for the range $20^\circ < \beta_o < 70^\circ$. Claims 37, 81, 97-101, and 120-122 are therefore unpatentable.

Allowable Subject Matter

12. Note that the prior indicated allowability of claim 33 has been withdrawn.
13. Claims 38, 41, 88, 102-111, 123, and 124 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
14. Claims 63-67 are allowed.
15. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the device of claim 63, in particular the additional limitation that the electrode structure is arranged alternately in at least two different

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planes in parallel with the substrate. Claim 63 is therefore allowed, as are its dependent claims 64-67.

The prior art does not disclose the device of claims 38 and 105-111, in particular the additional limitation that the liquid crystal layer has an untwisted structure in its initial orientation and can be reoriented to a twisted structure by the parallel field component. (Soref's electric field causes the liquid crystal across the entire layer to orient along the electric field as shown in the bottom of Fig. 3, not to form a twisted structure.) Claims 38 and 105-111 would therefore be allowable if rewritten appropriately.

Claims 41, 102-104, 123, and 124 recite ranges of β_0 for which the applicant's evidence of unexpected results distinguishes over Soref and its teachings. These claims would therefore be allowable if rewritten appropriately.

The prior art does not disclose the additional limitation of claim 88 that the variation of the degree of light transmission ($1-f_{\min}/f_{\max}$) is, over all ϕ values, below about 0.57 when θ is up to 45° . Claim 88 would therefore be allowable if rewritten appropriately.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Andrew Schechter
Primary Examiner
Technology Center 2800
2 April 2007